

§ 45.125

ft of length for each foot difference in height.

§ 45.125 Crew passageways.

The vessel must have means for protection of the crew from boarding seas such as life lines, gangways, and underdeck passages to facilitate passing between their quarters and machinery spaces and other spaces essential to the operation of the ship.

§ 45.127 Position of structures, openings, and fittings.

For the purposes of this part—

(a) *Position 1* means in an exposed position on—

(1) The freeboard deck or a raised quarter deck;

(2) A superstructure deck or a trunk deck and forward of a point $\frac{1}{4} L$ from the forward perpendicular; or

(3) A trunk deck whose height is less than H_s .

(b) *Position 2* means—

(1) On a superstructure deck aft of a point $\frac{1}{4} L$ abaft the forward perpendicular; or

(2) On a superstructure and trunk combination, that is H_s or more in height, aft of a point $\frac{1}{4} L$ abaft the forward perpendicular.

§ 45.129 Hull fittings: General.

Hull fittings must be securely mounted in the hull so as to avoid increases in hull stresses and must be protected from local damage caused by movement of equipment or cargo.

§ 45.131 Ventilators.

(a) Ventilators passing through superstructures other than enclosed superstructures must have coamings of steel or equivalent material at the freeboard deck.

(b) Ventilators in position 1 must have coamings at least 30 in. above the deck and ventilators in position 2 must have coamings at least 24 in. above the deck. The Commandant or the assigning authority may also require coamings in other exposed positions.

(c) Ventilators in position 1 or 2 to spaces below freeboard decks or decks of enclosed superstructures or trunks must have coamings of steel permanently connected to the deck and any

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ventilator coaming that is more than 36 in. high must be specially supported.

(d) Except as provided in paragraph (e) of this section ventilator openings must have weathertight closing appliances that are permanently attached or, where approved by the Commandant or the assigning authority conveniently stowed near the ventilators to which they are to be fitted.

(e) Ventilators in position 1, the coamings of which extend to more than 12.5 ft above the deck, and in position 2, the coamings of which extend to more than 6 ft above the deck, need not have closing appliances unless specifically required by the Commandant.

§ 45.133 Air pipes.

(a) Where an air pipe to any tank extends above the freeboard or superstructure deck—

(1) The exposed part of the air pipe must be made of steel and of sufficient thickness to avoid breaking from impact of boarding seas.

(2) The air pipe must have a permanently attached means of closing its opening; and

(3) The height from the deck to any point where water may obtain access below deck must be at least 30 in above the freeboard deck, 24 in above raised quarter decks, and 12 in above other superstructure decks.

(b) If the height required in paragraph (a) of this section interferes with working the ship, the Commandant may approve a lower height after considering the closing arrangements.

§ 45.135 Hull openings at or below freeboard deck.

Closures for hull openings at or below the freeboard deck must be as strong as the structure to which they are attached and must be watertight.

§ 45.137 Cargo ports.

(a) Unless otherwise authorized by the Commandant, the lower edge of any opening for cargo, personnel, machinery access, or similar opening in the side of a ship must be above a line that is drawn parallel to the freeboard deck at side and has as its lowest point the upper edge of the uppermost loadline.

(b) The number of cargo ports in the sides of a ship must be—

- (1) No more than the minimum necessary for working the ship; and
- (2) Approved by the Commandant.

§ 45.139 Side scuttles.

(a) The sill of each side scuttle must be above a line that is drawn parallel to the freeboard deck at side having its lowest point 2.5 percent of the breadth or 20 in above the summer load waterline, whichever is higher.

(b) Except as provided for in paragraph (c) of this section, each side scuttle to a space below the freeboard deck, or to a space within an enclosed superstructure, must have a hinged inside deadlight which is designed so that it can be secured watertight over the side scuttle.

(c) A side scuttle of a superstructure end bulkhead door, companionway door, or deckhouse door may have a portable inside deadlight which is designed so that it can be:

- (1) Secured watertight over the side scuttle; and
- (2) Stowed inside the superstructure, companionway, or deckhouse when not in use, in a readily accessible location on or adjacent to the door.

[CGD 73-49R, 38 FR 12290, May 10, 1973, as amended by CCGD 80-116, 46 FR 56788, Nov. 19, 1981]

§ 45.141 Manholes and flush scuttles.

Manholes and flush scuttles in position 1 or 2 or within any superstructure other than an enclosed superstructure must have permanently attached covers, unless the cover is secured by closely spaced bolts around its entire perimeter.

§ 45.143 Hull openings above freeboard deck.

Closures for openings above the freeboard deck must be as strong as the structure to which they are attached and must be weathertight.

§ 45.145 Hatchway covers.

(a) Hatchways in position 1 and 2 must have weathertight hatch covers with gaskets and clamping devices.

(b) The maximum ultimate strength of the hatchway cover material must be at least 4.25 times the maximum

stress in the structure calculated with the following assumed loads:

(1) For ships 350 ft or more in length, at least 250 lb/ft² in position 1 and 200 lb/ft² in position 2.

(2) For ships less than 350 ft in length, at least AL in the following formula:

(i) Position 1:

$$AL=200+C$$

where $C=50(L-79)/271$

(ii) Position 2:

$$AL=150+C$$

(c) Hatchway covers must be so designed as to limit the deflection to not more than 0.0028 times the span under the loads described in paragraph (b) of this section and the thickness of mild steel plating forming the tops of covers must be at least 1 percent of the spacing of stiffeners or 0.24 in, whichever is greater.

§ 45.147 Hatchway coamings.

(a) Except where the Commandant determines that the safety of the vessel will not be impaired in any sea condition, each hatchway must have a coaming that is at least—

- (1) 18 inches in position 1; and
- (2) 12 inches in position 2.

(b) Each hatchway coaming required by this section must be made of steel or equivalent material.

(c) The height of these coamings may be reduced or omitted if the Commandant is satisfied that safety of the ship is not thereby impaired in any sea conditions.

§ 45.149 Machinery space openings.

(a) Machinery space openings in position 1 or 2 must be framed and enclosed by steel casings, and where the casings are not protected by other structures that meet the requirements of § 45.109, their strength must be approved by the Commandant or the assigning authority.

(b) Access openings in casings required by paragraph (a) of this section must have doors complying with the requirements of § 45.113. Other openings in such casings shall be fitted with equivalent covers, permanently attached.